

~~A~~16.(New) A process according to Claim 13 in which the recovered cross-linked polysaccharide is complexed with a metal ion selected from zinc, copper and iron. ~~A~~ 102

B
cancel
~~A~~17.(New) A cross-linked polysaccharide prepared according to the process of Claim 13 characterized by various properties and physical shapes suitable for use in varying medical and veterinarian applications. ~~A~~ ?

Please cancel Claims 1-11.

REMARKS

A reconsideration of this application is respectfully requested.

In response to the objection to the specification, a substitute specification is submitted herewith attested to by the attorney of record as being a true and accurate copy of the specification originally filed and now of record. Replacement of the original with the copy and a withdrawal of the objection is respectfully requested.

New Claims 12-17 are submitted herewith for consideration. The subject matters of Claims 12 and 13 correspond generally to that of original Claims 1-4, 6 and 7; Claim 14 defines certain aspects of the cross-linking reaction not before specifically claimed; and Claims 15-17 define subject matter similar to that of Claims 8, 10 and 11.

In the process of redrafting the claims, attention has been paid to correcting the matters objected to under the heading

"Claim Objections" and under the Section 112 rejection. Accordingly, a withdrawal of the objections and of the Section 112 rejection is respectfully requested.

The provisional double patenting rejection is noted. Applicant will take appropriate action once the conflicting claims are indicated as containing patentable subject matter.

Claims 1-11 have been rejected under Section 103(a) as being unpatentable over Della Valle in combination with Qin and Conti. A reconsideration and withdrawal of this rejection with respect to the newly presented claims is respectfully requested for the following reasons.

It is submitted that the subject matter of Della Valle disclosing the cross-linking of hyaluronic acids through inter- or intra-molecular ester bonds cannot properly be modified by Qin and Conti both of whom disclose different types of reactions, in particular the cross-linking of hyaluronic acids through formation of amide bonds between carboxy groups of hyaluronic acids and amino groups of suitable diamines. The only common feature between the main reference and the supporting references is the activation of a carboxy group so that it can be reacted either with an OH group or an amino group.

There is no suggestion in any of the references that would make it a certainty that the incorporation of a teaching in one reference, i.e., the cross-linking via amide bonds, can be made into the teaching of another reference, i.e., the cross-linking

via ester bonds, or vice versa, for that matter. As an example of this uncertainty, the Examiner's attention is directed to the copy of PCT/EP00/02814 submitted herewith and identified as Exhibit 1. This reference has a common assignee with that of the Della Valle reference and, similarly, relates to the cross-linking of hyaluronic acids. On page 3, ls. 1-10 of the specification, it is disclosed that the use of chloromethylpyridinium iodide (CMPI), defined in Claim 13 of this application as the preferred carboxy activating agent, is entirely unsatisfactory, giving problems of uneven cross-linking. CMPI was known from the disclosure of the present application, yet the teaching could not be successfully incorporated into the different procedure of the PCT application.

Section 103(a) is an obviousness-type rejection and the necessary obviousness required for the ordinary man skilled in the art must be found in the supporting references. When that obviousness is inferred from Applicant's subject matter it is no longer obviousness but unobviousness' and patentability cannot, therefore, be denied.

Further as to the supporting references, only Qin discloses the cross-linking of polysaccharides both through ester and amide bonds. The enclose Rule 132 Declaration of Dr. Sportoletti shows that when using the process and conditions of Qin, a product is obtained having properties entirely different from those obtained according to the claimed process.

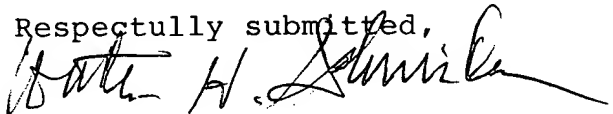
X

As to Conti, while the sulfation of a polysaccharide and subsequent complexation are known, per se, the derivatives obtained by the claimed process are insoluble, i.e., different from the soluble product of Conti. One would have no reason to expect that Conti's teaching would produce anything other than a soluble product as he has obtained.

In view of the above comments, a reconsideration of the Section 103(a) rejection in respect to Claims 12-17 and an allowance thereof is respectfully urged.

An early action leading to the issuance of a Notice of Allowance is respectfully solicited.

Respectfully submitted,



Walter H. Schneider
Attorney of Record

Encls. (1) Copy of PCT/EP00/02814
(2) Duplicate of originally filed specification
(3) Rule 132 Declaration of Dr. Sportoletti

Tel: 740-420-7378
Fax: 740-420-9628
Atty Dock 1757